

# METHOD FOR UNIFORM REACTIVE ION ETCHING OF DUAL PRE-DOPED POLYSILICON REGIONS

## Abstract

A method for forming a semiconductor device, includes forming a first locally doped semiconductor region of a first conductivity type and a second locally doped semiconductor region of a second conductivity type over an undoped, lower semiconductor region. A first etch is implemented to simultaneously create a desired pattern in the first and second locally doped semiconductor regions in a manner that also provides a first passivation of exposed sidewalls thereof, wherein the first etch removes material from the first and second locally doped regions at a substantially constant rate with respect to one another, and in a substantially anisotropic manner. A second etch is implemented to complete the desired pattern in the undoped, lower semiconductor region in a manner that protects the first and second locally doped regions from additional material removal therefrom.